IN THE CLAIMS

Claims 1-22 (canceled)

23. (Currently amended) A ~~bacteria~~ bacterium useful as a vehicle for gene transport and gene transfer to eukaryotic cells of an organism for inducing a targeted somatic transgenesis in cells, tissues or organs, except the germ-line cells of the organism, the ~~bacteria~~ bacterium comprising a foreign DNA integrated into an episomal vector, the transcription and expression of the foreign DNA being under the control of a eukaryotic ~~regulator gene selected from the group consisting of a promoter and other~~ regulatory sequence, wherein the ~~bacteria~~ bacterium:

a. ~~are~~ is vital and viable in the organism;

b. ~~have~~ has pathogenic properties selected from the group consisting of:

i. fully pathogenic;

ii. attenuated in one or more of the following ways:

(1) attenuated to prevent the ~~bacteria~~ bacterium from inducing apoptosis of the eukaryotic cells,

(2) attenuated to restrict the intracellular motility of the ~~bacteria~~ bacterium, and

(3) attenuated so as to permit efficient elimination of the ~~bacteria~~ bacterium after

the foreign DNA is transferred to the eukaryotic cells; and

iii. naturally not pathogenic ~~bacteria~~ bacterium that is provided with additional pathogenicity factors, said factors enabling the ~~bacteria~~ bacterium to infect the organism in a controlled manner, to advance into the organs and tissue of the organism, and to transfer the foreign DNA to remote somatic cells;

c. reach the target organ in the organism according to ~~their~~ its typical cycle of infection and by its ~~their~~ typical route of infection and is ~~are~~ able to transmit the foreign DNA into remote somatic cells;

d. ~~have~~ has the route of infection that is directed and locally limited either naturally or due to a specific genetic alteration of one or more genes selected from the group consisting of:

i. genes that influence the reproduction of the ~~bacteria~~ bacterium in the eukaryotic cells,

ii. genes that reduce the pathogenicity of the ~~bacteria~~ bacterium in the organism, and

iii. genes that inhibit the survival of the ~~bacteria~~ bacterium in the environment after the ~~bacteria~~ bacterium is excreted from the organism; and

e. having the cycle of infection that can be limited in time and terminated by use of an antibiotic

wherein the bacterium belongs to the genus Listeria.

24. (Currently amended) The ~~bacteria~~ bacterium of claim 23, wherein the ~~promoter and other~~ regulatory sequence originate from the previously selected target organ or are optimized from the target organ.

25. (Currently amended) The ~~bacteria~~ bacterium of claim 23, wherein the ~~bacteria~~ bacterium further comprises an additional exogenous suicide gene.

26. (Cancel)

27. (Currently amended) A ~~bacteria~~ bacterium useful as a vehicle for gene transport and gene transfer to eukaryotic cells of an organism for inducing a targeted somatic transgenesis in cells, tissues or organs, except the germ-line cells of the organism, the ~~bacteria~~ bacterium comprising a foreign DNA integrated into an episomal vector, the transcription and expression of the foreign DNA being under the control of a eukaryotic ~~regulatory gene selected from the group consisting of a promoter and other~~ regulatory sequence, wherein the ~~bacteria~~ bacterium:

a. ~~are~~ is vital and viable in the organism;

b. has ~~have~~ pathogenic properties selected from the group consisting of:

i. fully pathogenic;

ii. attenuated in one or more of the following ways:

(1) attenuated to prevent the ~~bacteria~~ bacterium from inducing apoptosis of the eukaryotic cells,

(2) attenuated to restrict the intracellular motility of the ~~bacteria~~ bacterium, and

(3) attenuated so as to permit efficient elimination of the ~~bacteria~~ bacterium after the foreign DNA is transferred to the eukaryotic cells; and

iii. naturally not pathogenic ~~bacteria~~ bacterium that is provided with additional pathogenicity factors, said factors enabling the ~~bacteria~~ bacterium to infect the organism in a controlled manner, to advance into the organs and tissue of the organism, and to transfer the foreign DNA to remote somatic cells;

c. reach the target organ in the organism according to ~~their~~ its typical cycle of infection and by ~~their~~ its typical route of infection and ~~are~~ is able to transmit the foreign DNA into remote somatic cells;

d. ~~have~~ has the route of infection that is directed and locally limited either naturally or due to a specific genetic alteration of one or more genes selected from the group consisting of:

i. genes that influence the reproduction of the ~~bacteria~~ bacterium in the eukaryotic cells,

ii. genes that reduce the pathogenicity of the ~~bacteria~~ bacterium in the organism, and

iii. genes that inhibit the survival of the ~~bacteria~~ bacterium in the environment after the ~~bacteria~~ bacterium is excreted from the organism; and

e. having the cycle of infection that can be limited in time and terminated by use of an antibiotic;

wherein the ~~bacteria~~ bacterium contains a dapE gene having a nucleotide sequence set forth in SEQ ID NO. 1, wherein the dapE gene ~~or the matching gene~~ is deleted or inhibited by blocking or mutation,

wherein the bacterium belongs to the genus Listeria.

28. (Currently amended) The ~~bacteria~~ bacterium of claim 27, wherein the ~~bacteria~~ bacterium is of strain Listeria monocytogenes.

29. (Currently amended) A ~~bacteria~~ bacterium useful as a vehicle for gene transport and gene transfer to eukaryotic cells of an organism for inducing a targeted somatic transgenesis in cells, tissues or organs, except the germ-line cells of the organism, the ~~bacteria~~ bacterium comprising a foreign DNA integrated into an episomal vector, the transcription and expression of the foreign DNA being under the control of a eukaryotic ~~regulator gene selected from the group consisting of a promoter and other~~ regulatory sequence, wherein the ~~bacteria~~ bacterium:

a. ~~are~~ is vital and viable in the organism;

b. ~~have~~ has pathogenic properties selected from the group consisting of:

i. fully pathogenic;

ii. attenuated in one or more of the following ways:

(1) attenuated to prevent the ~~bacteria~~ bacterium from inducing apoptosis of the eukaryotic cells,

(2) attenuated to restrict the intracellular motility of the ~~bacteria~~ bacterium, and

(3) attenuated so as to permit efficient elimination of the ~~bacteria~~ bacterium after the foreign DNA is transferred to the eukaryotic cells; and

iii. naturally not pathogenic ~~bacteria~~ bacterium that is provided with additional pathogenicity factors, said factors enabling the ~~bacteria~~ bacterium to infect the organism in a controlled manner, to advance into the organs and tissue of the organism, and to transfer the foreign DNA to remote somatic cells;

c. reach the target organ in the organism according to ~~their~~ its typical cycle of infection and by its ~~their~~ typical route of infection and ~~are~~ is able to transmit the foreign DNA into remote somatic cells;

d. ~~have~~ has the route of infection that is directed and locally limited either naturally or due to a specific

genetic alteration of one or more genes selected from the group consisting of:

i. genes that influence the reproduction of the ~~bacteria~~ bacterium in the eukaryotic cells,

ii. genes that reduce the pathogenicity of the ~~bacteria~~ bacterium in the organism, and

iii. genes that inhibit the survival of the ~~bacteria~~ bacterium in the environment after the ~~bacteria~~ bacterium is excreted from the organism; and

e. having the cycle of infection that can be limited in time and terminated by use of an antibiotic;

wherein said ~~bacteria~~ bacterium containing a cspL gene having a nucleotide sequence set forth in SEQ ID NO 2, wherein the cspL gene ~~or the matching gene~~ is deleted or inhibited by blocking or mutation
wherein the bacterium belongs to the genus Listeria.

30. (Currently amended) The ~~bacteria~~ bacterium of claim 29, wherein the ~~bacteria~~ bacterium belongs to the genus Listeria monocytogenes.

31. (Previously presented) A bacterial strain Listeria monocytogenes EGD Hyl_{D491A} which is deposited at the DSMZ (German Collection of Microorganisms and Cell Cultures) under the number of 11881 and is suitable for use according to claim 23.

32. (Original) A bacterial strain Listeria monocytogenes EGD Delta actA Delta plcB, which is deposited at the DSMZ (German collection of Microorganisms and Cell Cultures) under the number 11882 and is suitable for use according to claim 23.

33. (Original) A bacterial strain Listeria monocytogenes EGD Delta cspL 1, which is deposited at the DSMZ (German collection of Microorganisms and Cell Cultures) under the number 11883 ~~and~~ is suitable for use according to claim 22.

34. (Currently amended) The ~~bacteria~~ bacterium of claim 23, wherein the ~~bacteria~~ bacterium infect udders of cows or other lactating working animals.

Claims 35-51 (canceled)